MI FluFocus

Influenza Surveillance and Avian Influenza Update

Michigan Department of Community Health
Bureau of Epidemiology
Bureau of Laboratories

Editor: Susan Vagasky, DVM
VagaskyS@Michigan.gov

October 12, 2006
Vol. 3; No. 41

New updates in this issue:

- **Syndromic Surveillance:** Flu-like illness in MDSS, ED visits and OTC products all remain steady.
- **Sentinel Surveillance:** New sentinel provider data for the week ending October 7.
- **Avian Influenza:** New human case in Egypt; Confirmatory testing on Montana duck samples reveals low pathogenic H5N3 subtype, not H5N1.

Michigan Disease Surveillance System: As expected, the first few weeks of the academic year have correlated with an increase in flu-like illness activity reported in MDSS (Michigan Disease Surveillance System). This trend is expected to continue as the respiratory illness season progresses. However, current flu-like illness activity is comparable to that seen from last year at this time.

Emergency Department Surveillance: Emergency department visits due to constitutional and respiratory complaints have leveled off compared to the beginning of the school year. The levels for constitutional syndrome complaints have only slightly increased, while the respiratory syndrome complaints have remained steady. Four constitutional alerts in Regions 2S(1), 5(2), and 7(1), and two regional respiratory alerts (Regions 6 and 7) were generated in the past week.

Over-the-Counter Product Surveillance: Over-the-counter influenza indicators support the conclusions drawn above. Over the past week, all eight indicators demonstrated sales levels that were either stable or only increasing slightly. Only sales of chest rubs appear to be higher than from the same period last year.

Sentinel Surveillance (**as of October 12, 2006):** During the week ending October 7, 2006, the proportion of visits due to influenza-like illness (ILI) increased slightly from last week to 0.3% of all visits, representing 17 cases of ILI out of 4861 total patient visits. Twenty-five sentinels provided data for this report. Low levels of ILI activity were reported in all regions; 0.3%, Central; 0.8%, North; 0.4%, Southeast; and 0.0%, Southwest.

As part of pandemic influenza preparedness, CDC and MDCH highly encourage and recommend year-round participation from all sentinel providers. New practices are encouraged to join influenza sentinel surveillance program today! Contact Rachel Potter at 517-335-9710 or potterr1@michigan.gov for more information.

Laboratory Surveillance (as of October 12): No reports were received for the past week. There are no confirmed cases from the MDCH Laboratory for the 2006-2007 influenza season.

***As a reminder, the positive predictive value of influenza rapid tests decreases during times of low influenza prevalence. MDCH suggests that during periods of low influenza activity in your community, all positive rapid tests results be confirmed by sending in a specimen for viral culture; this can be arranged through your local health department.

Influenza-Associated Pediatric Mortality (as of October 12): There were no new reports this week. For the 2006-2007 season, there are no confirmed reports of influenza-related pediatric mortality.

***Reminder: The CDC has asked all states to continue to collect information on any pediatric death associated with influenza infection. This includes not only any death in a child less than 18 years of age resulting from a clinically compatible illness confirmed to be influenza by an appropriate laboratory or rapid diagnostic test, but also unexplained death with evidence of an infectious process in a child. Refer to http://www.michigan.gov/documents/fluletter_107562_7.pdf for the complete protocol. It is important to immediately call or fax information to MDCH to ensure that appropriate clinical specimens can be obtained.

Congregate Settings Outbreaks (as of October 12): No reports were received during the past reporting week. There have been no reports of congregate influenza outbreaks to MDCH for the 2006-2007 influenza season.

National (CDC): The first weekly report should be posted on October 13. To access the CDC weekly surveillance report throughout the influenza season, visit http://www.cdc.gov/flu/weekly/fluactivity.htm.

International (WHO, as of August 30): During weeks 31- 33, with the exception of New Zealand, where regional influenza A(H3N2) activity continued, overall influenza activity in both northern and southern hemispheres was low. In Australia, localized influenza activity continued to be reported during weeks 31–33. Influenza A and B viruses co-circulated. During weeks 31-33, influenza A activity in New Zealand remained similar to previous weeks and was reported as regional. Low influenza activity was reported in Argentina (H1, A and B), Hong Kong, Special Administrative Region of China (H1, H3 and B), Japan (H1), Madagascar, South Africa (H3 and B), and Uruguay (H1, A and B). Sweden reported an A(H3N2) case imported from China during week 33. Mexico, Portugal and Slovenia reported no influenza activity.

MDCH reported **NO ACTIVITY** to the CDC for this past week ending October 7, 2006.

End of Seasonal Report

Avian Influenza Activity

WHO Pandemic Phase: Phase 3 - Human infection(s) with a new subtype, but no human-to-human spread or rare instances of spread to a close contact.

International Update (WHO, October 11): The Ministry of Health in Egypt has confirmed the country's first case of human infection with the H5N1 virus since May of this year. The patient is a 39-year-old woman from the Gharbiya governorate in the Nile Delta. She developed symptoms on September 30th and was hospitalized on October 4th. She subsequently developed pneumonia. She remains hospitalized in stable condition. Her recent history includes the home slaughter and defeathering of around a dozen ducks when signs of illness and deaths began to occur in the flock. Egypt reported a recurrence of poultry outbreaks in backyard flocks in September 2006. Previous human cases occurred from late March 2006 through May. To date, the country has reported 15 cases, of which 6 were fatal.

FAO (October 6): The latest results of sequencing tests on virus isolates from poultry infected with avian influenza in Indonesia indicate that the virus is not mutating towards a more virulent strain that could attack humans and set off a pandemic. Studies of the sequences of more than 49 virus isolates from poultry on the islands of Sumatra, Java and Bali show no significant changes or mutation in the characteristics of the H5N1 avian influenza virus which is affecting much of the country. For the complete story, go to http://www.fao.org/docs/eims/upload//214353/Indonesian_06oct06.pdf.

National Wild Bird Surveillance (USDA, October 7): The U.S. Departments of Agriculture and Interior announced final test results, which confirm that a low pathogenic H5 avian influenza virus was found in samples collected last month from wild Northern pintail ducks in Montana. This type of avian influenza has been detected several times in wild birds in North America and poses no risk to human health. The USDA National Veterinary Services Laboratories confirmed the presence of low pathogenic H5N3 avian influenza through virus isolation in two of the 16 samples collected from wild pintails in Cascade County, Montana. Initial screening results announced on Sept. 21 indicated that H5 and N1 subtypes might be present in the

collected samples, but further testing was necessary to confirm the H and N subtypes as well as pathogenicity.

The initial rapid screening tests are highly sensitive and can detect active and inactive viruses in samples. Varieties of this test can screen for the presence of all strains of avian influenza virus. Because these rapid screening tests are highly sensitive, it is not uncommon to have positive results for a specific subtype on the initial screen test and yet not be able to isolate a virus of that subtype. This was the case for the N1 subtype in this sample which tested as a weak positive in the initial screen test. During confirmatory testing, an N1 subtype was not isolated but instead an N3 was found. As previously announced, genetic testing ruled out the possibility that the samples carried the highly pathogenic strain of H5N1 avian influenza that is circulating overseas.

Low pathogenic strains of avian influenza occur naturally in wild birds and typically cause only minor sickness or no noticeable signs of disease in birds. In most cases it causes no signs of infection or only minor symptoms in birds. These strains are common in the U.S. and around the world. Low pathogenic avian influenza viruses are very different from the more severe highly pathogenic H5N1 circulating in parts of Asia, Europe and Africa. Highly pathogenic strains of avian influenza spread rapidly and are often fatal to chickens and turkeys. The Departments of Agriculture and Interior are working collaboratively with States and academic institutions to sample wild birds throughout the United States for the presence of highly pathogenic avian influenza.

Michigan Wild Bird Surveillance: According to the National HPAI Early Detection Data System website, which is run by the US Geological Survey and available at http://wildlifedisease.nbii.gov/ai/, Michigan has results for a total of 415 wild birds submitted for testing as of October 6. 170 of these birds were live-captured and tested, 161 were hunter-killed, 54 were sentinel animals, and 30 were dead birds that were submitted for testing. HPAI subtype H5N1 has not been recovered from any Michigan samples tested to date, or from the 25,378 birds tested nationwide.

To learn about avian influenza surveillance in Michigan wild birds or to report dead waterfowl, go to Michigan's Emerging Disease website at http://www.michigan.gov/emergingdiseases.

Please contact Susan Vagasky at VagaskyS@Michigan.gov with any questions regarding this newsletter or to be added to the weekly electronic mailing list.

Table 1. H5N1 Influenza in Poultry (Outbreaks up to October 4, 2006)
(Source: http://www.oie.int/downld/AVIAN%20INFLUENZA/A_AI-Asia.htm Downloaded 10/6/2006)

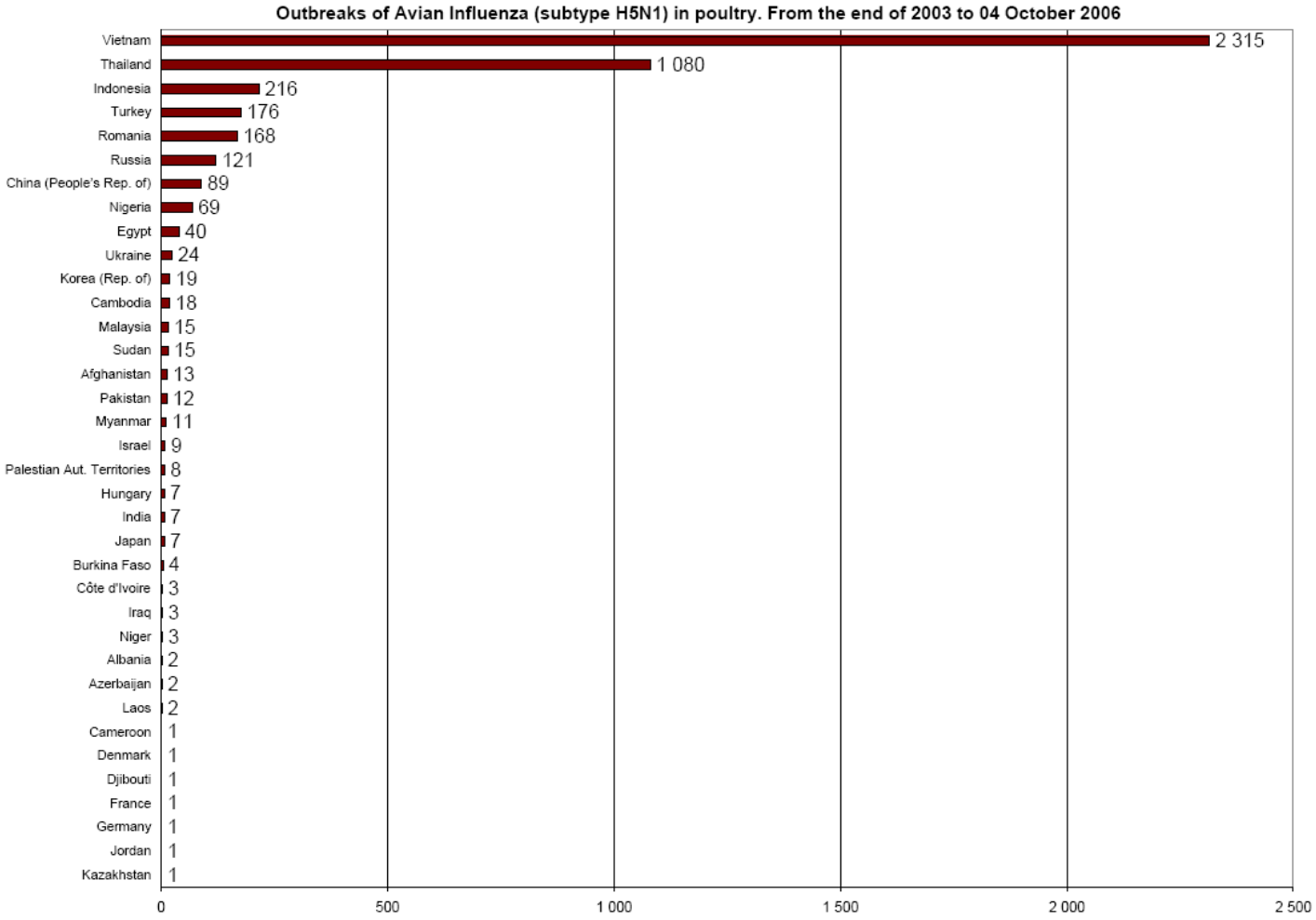

Table 2. H5N1 Influenza in Humans (Cases up to October 11, 2006)
(http://www.who.int/entity/csr/disease/avian_influenza/country/cases_table_2006_06_06/en/index.html Downloaded 10/11/2006)
Cumulative number of confirmed human cases of Avian Influenza A(H5N1) reported to WHO. The total number of cases includes number of deaths. WHO only reports laboratory-confirmed cases.

Country	2003		2004		2005		2006		Total	
	cases	deaths	cases	deaths	cases	deaths	cases	deaths	cases	deaths
Azerbaijan	0	0	0	0	0	0	8	5	8	5
Cambodia	0	0	0	0	4	4	2	2	6	6
China	1	1	0	0	8	5	12	8	21	14
Djibouti	0	0	0	0	0	0	1	0	1	0
Egypt	0	0	0	0	0	0	15	6	15	6
Indonesia	0	0	0	0	19	12	50	40	69	52
Iraq	0	0	0	0	0	0	3	2	3	2
Thailand	0	0	17	12	5	2	3	3	25	17
Turkey	0	0	0	0	0	0	12	4	12	4
Viet Nam	3	3	29	20	61	19	0	0	93	42
Total	4	4	46	32	97	42	106	70	253	148